

No.

200000340

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Progeny Advanced Genetics, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC DEPOSITMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR BREEDING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'Icon'

In Testimony Whereof, I have hereunto set my hand  
and caused the seal of the Plant Variety  
Protection Office to be affixed at the City of  
Washington, D.C. this seventh day of August, in  
the year two thousand and six.

Attest:



Commissioner

Plant Variety Protection Office  
Agricultural Marketing Service



Secretary of Agriculture

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved - OMB No. 0581-14

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2425).

1. NAME OF OWNER <b>PROGENY ADVANCED GENETICS, INC.</b>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>PX 621</b>	3. VARIETY NAME <b>ICON</b>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and County) <b>1536 B MOFFETT STREET SALINAS, CA 93905-3342</b>	5. TELEPHONE (Include area code) <b>831-751-6030</b>	6. FAX (Include area code) <b>831-751-6032</b>
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>CORPORATION</b>	8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>CALIFORNIA</b>	9. DATE OF INCORPORATION <b>12-26-94</b>
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Darryn Gibson Product Development Manager Progeny Advanced Genetics, Inc. 1536 B Moffett Street Salinas, CA 93905</b>		
FILING AND EXAMINATION FEES: <b>\$ 2,705.00</b>		
DATE <b>Sept 7, 2000</b>		
CERTIFICATION FEE: <b>\$ 768 -</b>		
DATE <b>May 23, 06</b>		
11. TELEPHONE (Include area code) <b>831-751-6030</b>	12. FAX (Include area code) <b>831-751-6032</b>	13. E_MAIL <b>dgibson@redshift.com</b>
14. CROP KIND (Common Name) <b>LETTUCE</b>		
15. GENUS AND SPECIES NAME OF CROP <b>LACTUCA SATIVA</b>	16. FAMILY NAME (Botanical) <b>COMPOSITAE</b>	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		
<p>a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasury of the United States" (Mail to the Plant Variety Protection Office)</p>		
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 82(a) of the Plant Variety Protection Act? <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <b>Sept 10, 1999</b> <input type="checkbox"/> NO <b>RAD 4/16/06</b>		
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be repatriated upon request, in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.		
The undersigned owner(s) is/are the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42 of the Plant Variety Protection Act.		
Owner(s) is/are informed that false representation herein can jeopardize protection and result in penalties.		
SIGNATURE OF OWNER 	SIGNATURE OF OWNER 	
NAME (Please print or type) <b>Darryn Gibson</b>	NAME (Please print or type)	
CAPACITY OR TITLE <b>Product Development Manager</b>	DATE <b>02/21/06</b>	CAPACITY OR TITLE <b>Product Development Manager</b>
DATE <b>02/21/06</b>		CAPACITY OR TITLE <b>Product Development Manager</b>



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## Exhibit A Revised

### Details of the Development of the Variety Icon

Icon is an iceberg lettuce variety developed from a hand pollinated cross of Pybas 251 available from Pybas Seed Co. and Spector available from Genecorp Seed made in 1993 in the San Joaquin Valley. The F1 seed harvested was designated as 9310X11. The two parental varieties were selected for their compatibility. Pybas 251 was selected for its large head and frame size and cold tolerance. Spector was selected for its dark color, good texture and heading characteristics. The cross was made, and through the pedigree breeding and selection process, a new distinct and unique variety was produced. Through this breeding method we were able to develop a dark green, large heading iceberg lettuce with improved texture for early winter plantings in Yuma Arizona, and the mid winter plantings in the Salinas Valley of California.

Approximately 40 plants of the F1 seed were planted in a San Joaquin Valley production field for seed increase in 1994. The block was rogued, eliminating the self pollinating plants. The F2 seed was harvested in August 1994.

The F2 seed was designated as #94078 and was evaluated in research and development plot trials in late 1994 and 1995. The seed was then increased in 1995 in a San Joaquin Valley production field. The block was intensely rogued at the market stage, selecting plants for improved head and frame size, dark green color and a smoother texture. Additional rogueing for uniformity in size and maturity was done until complete seed maturity. The remaining plants were bulk harvested producing the F3 seed in the fall of 1995.

The F3 seed was extensively trialed throughout the years 1995 and 1996 growing seasons in Yuma, Arizona and the Salinas Valley of California, and was designated as PX 621 in April of 1996. The seed was increased in 1996 in the San Joaquin Valley research production, selecting for large head and frame size, dark green color and an improved smoother texture. Further rogueing for size, type and maturity was done until harvest of the F4 seed. The resulting plants were noted as stable and expressing the desired phenotypic traits.



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The F4 seed was evaluated in research and development plot trials during 1996 and 1997 growing seasons in the winter plantings of Yuma, Arizona and the Salinas Valley of California, where it exhibited good uniformity. The F4 seed was increased in 1997 in a San Joaquin Valley research production field and selectively rogued for uniformity of type, size and maturity. The F5 seed was then harvested.

During the year 1997 and 1998 growing seasons, the F5 seed was trialed in Yuma, Arizona and the Salinas Valley of California. This variety was noted to exhibit the desired phenotypic traits, producing an improved large dark head and frame, while being uniform, stable and without variants. The F5 seed was planted in 1998 in a San Joaquin Valley commercial production field, where it was selectively rogued for uniformity in size and maturity. The F6 seed was harvested that fall.

The F6 seed was planted in large strip trials in the 1998 and 1999 growing seasons of Yuma, Arizona and the Salinas Valley of California. The evaluation of these trials showed the variety to exhibit the desired phenotypic characteristics of improved head and frame size, dark green color, and improved texture, while being uniform, stable and without variants. The F6 seed was increased in 1999 in a San Joaquin Valley commercial production field, and selectively rogued for uniformity in size and maturity. Less than 1% of the plants were removed during the rogueing process. The F7 seed was harvested. PX 621 was named Icon during the winter of 1999.

Icon, as evaluated in commercial trials and production, has been stable and without variants for two generations.

The seed produced of the variety Icon was first sold on September 10, 1999, to a lettuce grower in Yuma, Arizona. At no point prior was any harvested material sold for commercial value.



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### Exhibit B Revised: Statement of Distinctness

Icon is distinguished primarily by type and adaptability. Icon is a Salinas type iceberg lettuce that performs well during the mid to late winter slot in Yuma, Arizona, where a Salinas type variety does not typically perform well. While other similar looking varieties burn and produce open and puffy heads, Icon is consistently uniform, solid heading and free of tip burn. When compared to the other varieties with this same adaptability, Icon is darker green, larger heading, larger framed and a much more uniform product.

Icon most closely resembles the variety Desert Spring.

**The following characteristics distinguish Icon and Desert Spring, as cited in their respective Exhibit C documentation:**

Characteristic	Icon	Desert Spring
Cotyledon to 4 <sup>th</sup> leaf:		
Apical Margin	Finely Dentate	Moderately Dentate
Basal Margin	Finely Dentate	Coarsely Dentate
Undulation	Flat	Medium
Cupping	Uncupped	Markedly
Reflexing	Lateral Margin	Apical Margin
Mature Leaf:		
Size	Large	Medium
Glossyness	Moderate	Dull
Plant:		
Head size:	Large	Medium
Butt:		
Shape:	Rounded	Flat
Midrib:	Moderately Raised	Flat
Bolter Leaves:		
Margin:	Dentate	Entire
Leaf color	Medium Green	Dark Green
Bolter Habit:		
Lateral Shoots:	Present	Absent

The main distinction between Icon and Pybas 251 is the adaptability. The primary planting slot for Icon is during the second half of November in Yuma Arizona where it produces a larger and more uniform head size than any of the existing varieties for the same slot. The variety Pybas 251 is primarily slotted for late winter and early spring plantings in the Salinas Valley. Icon when planted in the Salinas Valley during this time has an inconsistent performance as it can be puffy or very loose heading.



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When compared to the seed bearing parent variety Pybas 251, Icon is distinct by the following characteristics: See attached data sheets for statistical analysis.

Adaptability:	Icon is best adapted for winter desert plantings
Head Size:	Icon has a smaller head size
Core Length:	Icon has a shorter core length
Frame Diameter:	Icon has a smaller frame diameter
Color:	Icon has a darker leaf color

The data was collected in two growing regions at 2 sites each region. Two trials were conducted in the Salinas Valley of California, Castroville and Spreckles, in July plantings for September harvest. Two additional trials were conducted in the Desert South West production region, specifically Holtville and Texas Hill, during late fall plantings for winter harvest. These characteristics were statistically significant at a 95% confidence level when analyzed with a T-Test, and at a % difference greater than 10% for each of the indicated traits.

**The following characteristics distinguish Icon and its parent variety Spector. These distinctions are cited in their respective Exhibit C documentations:**

Characteristic	Icon	Spector
Seed Color:	Black	White
Cotyledon to 4 <sup>th</sup> leaf:		
Apical Margin	Finely Dentate	Moderately Dentate
Basal Margin	Finely Dentate	Coarsely Dentate
Undulation	Flat	Medium
Green Color	Dark	Medium
Cupping	Uncupped	Slight
Reflexing	Lateral Margin	None
Mature Leaf:		
Green Color	Dark	Medium
Size	Large	Medium
Plant:		
Head size:	Large	Medium

**Characteristics continued for Icon and Spector:**

Characteristic	Icon	Spector
Butt:		
Shape:	Rounded	Flat
Midrib:	Moderately Raised	Flat
Bolter Leaves:		
Margin:	Dentate	Entire

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
COMMODITIES SCIENTIFIC SUPPORT DIVISION  
OBJECTIVE DESCRIPTION OF VARIETY  
LETTUCE *Lactuca sativa*

EXHIBIT C

NAME OF APPLICANT (S)

**PROGENY ADVANCED GENETICS, INC.**

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)

1536 B MOFFETT ST  
SALINAS CA, 93907

FOR OFFICIAL USE ONLY

PVNO NUMBER

**200000340**

VARIETY NAME

EXPERIMENTAL DESIGNATION

Place numbers in the boxes for the characters which best describe this variety. Measured data should be the mean of an appropriate number (at least 10) of well spaced plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The location of the test area is:

**SALINAS, CA. YUMA, AZ.**

Color System Used:

**MUNSELL COLOR CHART 5GY 4/8**

1. PLANT TYPE: (See list of suggested check varieties page 4.)

**06**

- 01-Cutting/Leaf
- 05-Great Lakes Group
- 09-Stem
- 02-Butterhead
- 06-Vanguard Group
- 10-Latin
- 03-Bibb
- 07-Imperial Group
- 11-OTHER
- 
- 04-Cos or Romaine
- 08-Eastern (Innacal) Group

2. SEED:

**2**

- COLOR
- 1=White (Silver Gray)
- 2=Black (Gray Brown)
- 3=Brown (Amber)

**2**

- LIGHT DORMANCY
- 1=Light Required
- 2=Light Not Required

**1**

- HEAT DORMANCY
- 1=Susceptible
- 2=Not Susceptible

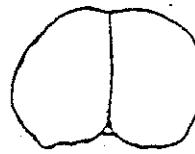
3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day old seedling grown under optimal conditions.

**2**

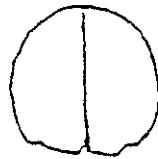
- SHAPE OF COTYLEDONS:      1=Broad      2=Intermediate      3=Ovate

**3**

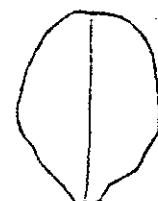
SHAPE OF FOURTH LEAF:



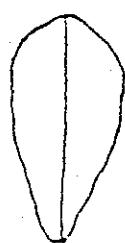
1



2



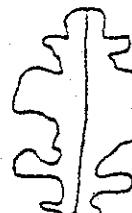
3



4



5



6

**29**

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

**3**

APICAL MARGIN:

1=Entire

4=Moderately Dentate

7=Lobed

**3**

BASAL MARGIN:

- 2=Crrenate/Gnawed
- 3=Finely Dentate

5=Coarsely Dentate

8=OTHER (specify)

**1**

UNDULATION:

1=Flat

2=Slight

3=Medium

4=Marked

**4**

GREEN COLOR:

- 1=Yellow Green
- 2=Light Green

3=Medium Green

5=Blue Green

7=Gray Green

ANTHOCYANIN:

**1**

DISTRIBUTION:

- 1=Absent
- 2=Margin Only

3=Spotted

5=OTHER (specify)

**1**

CONCENTRATION:

- 1=Light

2=Moderate

3=Intense

**1**

ROLLING:

- 1=Absent

2=Present

**1**

CUPPING:

- 1=Uncupped

2=Slight

3=Markedly

**3**

REFLEXING:

- 1=None

2=Aoical Margin

3=Lateral Margins

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## 4. MATURE LEAVES (observe harvest-mature outer leaves):

NOTE: Provide color photo of harvest-mature leaves which accurately shows color and margin characteristics.

## MARGIN:

<b>2</b>	INCISION DEPTH: <i>(deepest penetration of the margin)</i>	1=Absent/Shallow (Dark Green Boston)      2=Moderate (Vanguard)      3=Deep (Great Lakes 659)
<b>4</b>	INDENTATION: <i>(finest divisions of the margin)</i>	1=Entire (Dark Green Boston)      2=Shallowly Dentate (Great Lakes 65)      3=Deeply Dentate (Great Lakes 659)      4=Crenate (Vanguard)      5=OTHER (specify)
<b>2</b>	UNDULATION OF THE APICAL MARGIN:	1=Absent/Slight (Dark Green Boston)      2=Moderate (Vanguard)      3=Strong (Great Lakes 659)
<b>4</b>	GREEN COLOR:	1=Very Light Green (Bibb)      2=Light Green (Minetto)      3=Medium Green (Great Lakes)      4=Dark Green (Vanguard)      5=Very Dark Green      6=OTHER
ANTHOCYANIN (grown at or below 10°C):		
<b>1</b>	DISTRIBUTION:	1=Absent      2=Margin Only (Big Boston)      3=Spotted (Calif. Cream Butter)      4=Throughout (Prize Head)      5=OTHER (specify)
<b>—</b>	CONCENTRATION:	1=Light (Iceberg)      2=Moderate (Prize Head)      3=Intense (Ruby)
<b>3</b>	SIZE:	1=Small      2=Medium      3=Large
<b>2</b>	GLOSSINESS:	1=Dull (Vanguard)      2=Moderate (Salinas)      3=Glossy (Great Lakes)
<b>2</b>	BLISTERING:	1=Absent/Slight (Salinas)      2=Moderate (Vanguard)      3=Strong (Prize Head)
<b>2</b>	LEAF THICKNESS:	1=Thin      2=Intermediate      3=Thick
<b>1</b>	TRICHOMES:	1=Absent (smooth)      2=Present (spiny)

## 5. PLANT (at market stage. Choose a comparison variety appropriate for this type.):

## SPREAD OF FRAME LEAVES:

**4 9**

cm This Variety

**5 0** cm**PYBAS 251**

(specify comparison variety)

## HEAD DIAMETER (market trimmed with single cap leaf):

**1 6**

cm This Variety

**1 6** cm**PYBAS 251**

(specify comparison variety)

## HEAD SHAPE:

1=Flattened

2=Slightly Flattened

3=Spherical

4=Elongate

5=Non-Heading

6=OTHER

## HEAD SIZE CLASS:

1=Small

2=Medium

3=Large

**2 4**

## HEAD COUNT PER CARTON

**8 6 3**

## HEAD WEIGHT:

g This Variety

**8 8 9** g**PYBAS 251**

(specify comparison variety)

## HEAD FIRMNESS:

1=Loose

2=Moderate

3=Firm

4=Very Firm

## 6. BUTT (bottom of market-trimmed head):

## SHAPE:

1=Slightly Concave

2=Flat

3=Rounded

## MIORIB:

1=Flattened (Salinas)

2=Moderately Raised

3=Prominently Raised (Great Lakes 659)

## 7. CORE (stem of market-trimmed head):

**3 6**

mm Diameter at base of head

**4 4**

Ratio of head diameter/core diameter

**4 2**

Core height from base of head to apex:

**4 2** mm**PYBAS 251**

(specify comparison variety)

8. BOLTING (Give First Water Date **5/11/00**):

NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

Number of days from First Water Date to seed stalk emergence (summer conditions):

**5 9**

This Variety

**5 7****PYBAS 251**

(specify comparison variety)

**3**

## BOLTING CLASS:

1=Very Slow

2=Slow

3=Medium

4=Rapid

5=Very Rapid

Height of mature seed stalk:

**1 1 0**

cm This Variety

**1 1 7** cm**PYBAS 251**

(specify comparison variety)

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Spread of Bolter Plant (at widest point):

3 8 cm This Variety

3 4 cm PYBAS 251

(specify comparison variety)

 3

BOLTER LEAVES:

1=Straight

2=Curved

 2

MARGIN:

1=Entire

2=Dentate

 2

COLOR:

1=Light Green

2=Medium Green

3=Dark Green

BOLTER HABIT:

 2

TERMINAL INFLORESCENCE:

1=Absent

2=Present

 2LATERAL SHOOTS:  
(above head)

1=Absent

2=Present

 1

BASAL SIDE SHOOTS: 1=Absent

2=Present

## 9. MATURITY (earliness of harvest-mature head formation):

NOTE: Complete this section for at least one season.

SEASON	Applc. 1/ #of days	Check 1/ #of days	CHECK VARIETY 2/
Spring			
Summer			
Fall			
Winter	1 0 3	1 0 5	PYBAS 251

Give planting date(s), and location(s):

Spring \_\_\_\_\_

Summer \_\_\_\_\_

Fall \_\_\_\_\_

Winter NOVEMBER 15--DECEMBER 1 YUMA ARIZONA

1/ First water date to harvest.

2/ Fill in check variety name on the appropriate line.

## 10. ADAPTATION:

PRIMARY REGIONS OF ADAPTION (tested and proven adapted):

(0=Not tested

1=Not Adapted

2=Adapted)

 2

Southwest (Calif., Ariz. desert)

 West Coast Northeast

Northcentral

 Southeast OTHER \_\_\_\_\_

SEASON:

 Spring (area \_\_\_\_\_) Fall (area \_\_\_\_\_) Summer (area \_\_\_\_\_) Winter (area YUMA, ARIZONA) 0

GREENHOUSE:

0=Not tested

1=Not Adapted

2=Adapted

 3

SOIL TYPE:

1=Mineral

2=Organic

3=Both

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11. DISEASES AND STRESS REACTIONS (0=Not tested; 1=Susceptible; 2=Intermediate; 3=Resistant; 4=Highly resistant; 5=Tolerant)

VIRUS

- 2 Big Vein
- 1 Lettuce Mosaic
- 0 Cucumber Mosaic
- 0 Broad Bean Wilt
- 0 Turnip Mosaic
- 0 Beet Western Yellow
- 0 Lett. Infectious Yellow
- Other Virus \_\_\_\_\_

FUNGAL/BACTERIAL

- 1 Cercy Root Rot (Pythium Root Rot)
- 1 Downy Mildew (Roses \_\_\_\_\_)
- 1 Powdery Mildew
- 1 Sclerotinia Rot
- 0 Bacterial Soft Rot (Pseudomonas spp. & others)
- 1 Botrytis (Gray Mold)
- OTHER \_\_\_\_\_

INSECTS

- 0 Cabbage Looper
- 0 Root Aphids
- 1 Green Peach Aphid
- 0 Other Insect \_\_\_\_\_

PHYSIOLOGICAL/STRESS

- 5 Sodium
- 0 Salt
- 2 Heat
- 0 Brown Rib (Rib Discoloration, Rib Blight)
- 0 Drought
- OTHER \_\_\_\_\_
- 5 Cold

POST HARVEST

- 5 Pink Rib
- 0 Russet Spotting
- 0 Rusty Brown Discoloration

- 0 Internal Rib Necrosis (Blackheart, Gray Rib, Gray Streak)
- 0 Brown Stain

12. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:

13. COMMENTS:

SUGGESTED CHECK VARIETIES

- | TYPE               |
|--------------------|
| 1) CUTTING/LEAF    |
| 2) BUTTERHEAD      |
| 3) BIBB            |
| 4) COS, OR ROMAINE |
| 5) RED LADY BOSTON |

9

CHECK VARIETY

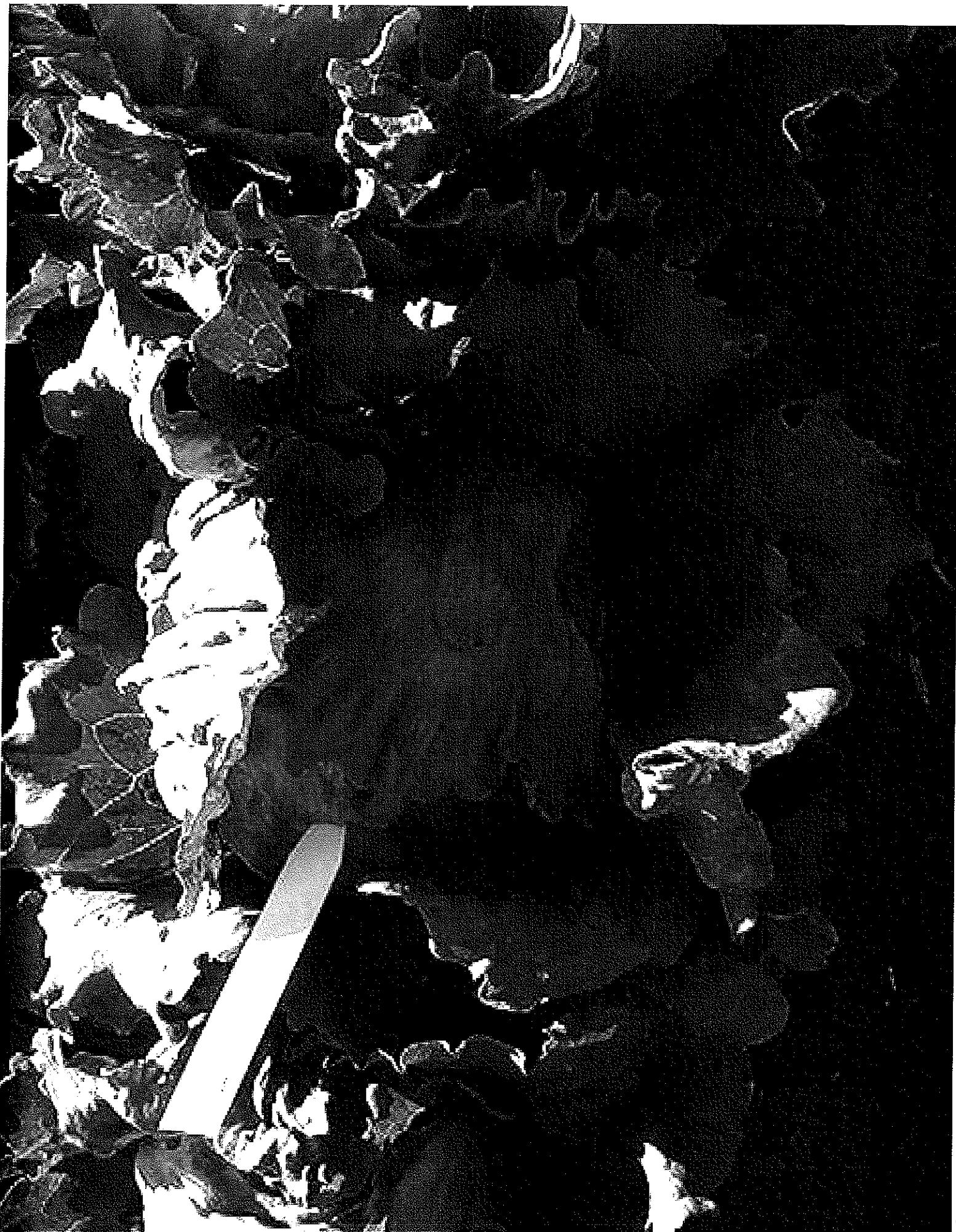
- SALAD BOWL
- DARK GREEN BOSTON
- 18182
- PARRIS ISLAND

200000340

ICON



Lettuce 'Icon', PV# 200000340





**PROGENY**  
advanced genetics®

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## **Exhibit D**

Icon is distinguished primarily by type and adaptability. Icon is a Salinas type iceberg lettuce that performs well during the mid winter slot in Yuma, Arizona, where a Salinas type variety does not typically perform well. While other similar looking varieties burn and produce open and puffy heads, Icon is consistently uniform, solid heading and free of tip burn. When compared to the other varieties with this same adaptability, Icon is darker green, larger heading, larger framed and a much more uniform product.

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Trial map #: YM99172  
 Wet Date: 11/6/99  
 Date evald: 3/7/00  
 Location: Dome Valley  
 Grower: Pasi

## PVP DATA:

## Comparison of Head Characteristics

Ranch/Lot: Powers 168  
 Commercial Var: Cibola

Sample #	Core length (cm) Icon	Core diam. (cm) Desert Spring Icon	Head diam. (cm) Desert Spring Icon	Head length (cm) Desert Spring Icon	Avg Head Diameter (cm) Desert Spring Icon	Diam:Core Lst Icon	Frame diam (cm) Desert Spring Icon	Head wt. (g) Desert Spring Icon	Head wt. (g) Desert Spring Icon
1	3.5	4.0	18.2	13.4	16.0	17.1	15.0	4.9	5.0
2	3.6	3.5	16.7	15.6	12.9	13.7	14.8	3.9	4.2
3	5.2	3.3	3.7	16.1	14.1	15.0	18.5	3.0	4.9
4	4.4	4.3	3.9	17.7	16.5	16.7	15.9	4.7	5.0
5	4.6	3.6	4.4	15.3	15.2	13.9	15.5	3.8	4.9
6	3.6	3.6	4.2	14.4	14.5	15.3	14.9	3.2	3.6
7	3.0	3.7	3.9	16.3	14.7	14.3	16.6	4.1	4.1
8	4.4	2.7	4.4	3.6	16.9	13.2	14.3	5.2	4.3
9	3.5	3.2	3.9	13.5	14.3	15.7	15.0	3.2	3.5
10	3.5	2.9	3.6	16.3	14.3	13.1	17.5	4.7	5.0
11	4.5	2.6	3.2	16.3	14.7	14.8	15.6	3.5	4.1
12	3.4	4.7	3.3	16.4	15.7	13.0	14.7	5.2	4.3
13	2.7	4.6	4.3	16.1	14.5	14.8	16.7	5.7	5.2
14	2.9	4.0	3.8	17.3	14.6	15.1	16.9	5.7	5.7
15	4.6	2.8	3.7	15.5	15.7	14.6	15.0	4.2	4.2
16	3.2	2.7	4.1	15.2	15.3	14.7	15.2	5.0	5.0
17	2.6	5.5	3.2	16.0	14.2	15.3	17.4	5.1	5.1
18	3.2	3.6	4.1	14.3	13.4	14.1	15.4	6.0	6.0
19	4.4	4.0	3.8	17.1	13.5	15.8	16.5	5.7	5.7
20	4.0	5.0	3.4	15.3	16.4	15.5	15.0	3.3	3.3
21	4.3	3.8	3.2	15.0	14.6	15.4	15.5	4.2	4.2
22	4.5	3.7	3.9	16.1	17.4	15.9	16.0	2.9	2.9
23	3.9	3.7	3.4	15.1	15.4	14.9	15.7	5.7	5.7
24	3.0	3.1	4.0	16.3	15.3	18.0	15.1	5.0	5.0
Average	3.8	3.7	3.9	16.0	14.9	15.9	15.5	4.7	4.7
Std dev	0.70770859	0.75844187	0.322327	0.286912601	1.1411192	0.955667527	1.286448008	0.74432332	0.932366379
T test	5.45E-01	3.45E-05	3.58E-03	3.39E-03	9.32E-01	7.78E-01	3.14E-03	7.78E-01	9.01E-02

W

200000340

Trial map #: P090934  
 Wet Date: 11/22/99  
 Date eval: 3/8/00

PVP DATA:  
 Comparison of Head Characteristics  
 Ranch/lot: E Berryman/11  
 Commercial Var: Desert Spring

Sample #	Core length (cm)	Core diam. (cm)	Head diam. (cm)	Head length (cm)	Avg Head Diameter (cm)	Frame diam (cm)	Head wt. (g)
Icon	Desert Spring	Icon	Desert Spring	Icon	Desert Spring	Icon	Desert Spring
1	3.6	2.8	4.0	16.1	16.6	12.3	14.5
2	4.0	4.7	3.5	16.2	13.3	16.1	4.2
3	3.6	4.3	3.8	15.4	15.8	14.1	13.8
4	4.5	3.7	3.9	16.3	14.1	15.6	4.3
5	6.6	4.7	4.0	3.1	16.3	14.4	14.3
6	4.1	3.5	3.3	16.2	14.0	15.2	15.6
7	5.2	4.4	3.9	16.3	14.4	14.9	14.5
8	2.5	4.1	3.7	3.4	13.7	14.3	14.6
9	3.5	5.1	4.3	3.2	17.2	14.1	13.5
10	4.6	4.7	3.4	3.3	16.4	14.7	15.7
11	2.6	3.1	3.5	13.9	13.5	14.3	14.5
12	5.4	3.2	3.2	14.9	13.8	16.1	12.4
13	5.0	4.0	3.9	3.8	15.1	15.6	15.2
14	3.7	4.0	3.9	3.2	17.1	16.3	16.7
15	4.5	4.7	3.6	3.7	15.6	14.6	15.1
16	4.1	5.0	3.4	14.9	15.3	16.2	16.0
17	4.7	3.5	3.8	3.0	18.6	13.4	14.7
18	4.5	5.3	3.4	3.9	14.8	14.9	14.5
19	2.8	5.5	3.5	3.4	15.0	13.4	14.8
20	3.7	3.4	3.8	3.7	15.3	11.8	12.2
21	4.7	4.7	4.0	3.9	16.1	15.7	16.0
22	3.7	5.6	3.6	3.5	16.8	13.6	13.9
23	2.7	4.5	3.3	3.4	14.5	16.8	15.3
24	4.4	5.1	3.6	3.6	15.4	15.2	14.0
Average	4.2	4.3	3.7	3.5	15.9	14.6	14.5
Sian dev	0.9080857	0.862745449	0.30348221	0.293374915	1.0188091	1.265362124	0.8049682
T test	7.95E-01	1.74E-02	4.47E-04	6.97E-01	4.47E-04	6.97E-01	4.47E-04

1.143214068 0.616127 1.0008298897 0.8595339 0.77745446 3.3449074 3.35699967 110.56737 186.4475862

0.00E-01 4.00E-01 6.03E-02 7.76E-01

200000340

Trial map #: 11/23/99      Location: Dome Valley  
 Wet Date: 3/10/00      Grower: Nakawawa  
 Date eval:      Ranch/Plot: More 6  
 Commercial Var: Desert Spring

## PVP DATA:

## Comparison of Head Characteristics

Sample #	Core length (cm)		Core diam. (cm)		Head diam. (cm)		Head length (cm)		Avg Head Diameter (cm)	Avg Head Diam/Cone Leng	Frame diam (cm)	Desert Spring icon	Desert Spring icon	Head wt. (g)	
	Icon	Desert Spring	Icon	Desert Spring	Icon	Desert Spring	Icon	Desert Spring							
1	3.0	5.1	4.2	3.4	15.0	15.3	13.9	14.5	14.5	2.9	51	957	794		
2	3.0	3.5	4.1	3.6	17.8	15.2	16.0	13.6	16.9	4.8	41		605	756	
3	4.7	4.2	3.5	3.4	16.6	13.6	14.7	13.6	15.7	3.3	46		845	742	
4	3.5	6.0	4.0	3.7	15.7	14.0	13.4	15.1	14.6	4.2	49		745		
5	4.0	7.0	4.0	3.3	16.4	13.8	16.5	15.0	16.5	4.4	41		1050	751	
6	5.5	4.3	4.0	3.6	16.2	13.2	14.8	14.2	15.5	13.7	2.8	2.0	49	884	
7	5.0	4.2	3.5	3.5	13.6	14.3	15.2	13.6	14.4	14.0	2.9	3.2	49	809	
8	4.8	4.4	3.9	3.7	16.2	15.0	15.5	12.6	15.9	13.8	3.3	2.5	45	850	
9	3.1	6.5	4.2	3.5	16.0	15.2	15.4	13.5	15.7	14.4	5.1	3.3	46	883	
10	3.3	4.5	4.3	3.6	16.4	15.0	14.8	13.3	15.6	14.2	4.7	2.2	49	683	
11	3.1	5.0	3.7	3.7	16.1	14.2	15.5	14.2	15.8	14.2	5.1	3.2	49	673	
12	3.2	5.1	3.7	3.5	17.4	13.2	16.0	13.4	16.7	13.3	5.2	2.7	50	670	
13	3.5	4.5	3.6	3.2	15.1	15.2	15.7	13.2	15.4	14.2	4.4	2.8	47	731	
14	3.2	4.0	4.1	3.4	15.8	15.5	14.0	14.0	14.9	15.1	4.7	3.4	46	870	
15	3.7	3.9	3.9	3.4	14.7	15.3	13.3	14.2	14.0	14.8	3.8	3.7	50	851	
16	3.7	4.3	3.7	3.4	14.5	15.6	15.7	13.8	15.1	14.7	4.1	3.8	46	794	
17	4.5	5.2	4.2	3.5	17.3	14.3	13.3	13.7	15.3	14.0	3.4	2.7	48	894	
18	3.5	4.1	3.6	3.5	16.6	13.9	14.2	14.5	15.4	14.2	4.4	3.2	54	677	
19	4.0	4.3	4.4	3.5	18.3	14.7	16.0	14.3	17.2	14.5	4.3	3.4	49	984	
20	4.9	4.6	4.3	3.6	16.0	15.6	15.0	13.7	15.5	14.7	3.2	3.2	47	862	
21	3.2	6.3	3.8	3.4	14.4	14.8	14.9	13.4	14.7	14.1	4.6	2.2	47	1029	
22	3.5	5.0	3.9	3.5	14.3	14.3	14.0	14.1	14.2	14.2	4.0	2.8	45	786	
23	5.0	4.3	3.5	3.5	16.8	13.9	15.3	14.6	16.1	14.3	3.2	3.3	53	822	
24	5.0	4.5	3.3	3.5	16.4	15.7	15.3	13.3	15.9	14.5	3.2	4.7	47	834	
Average	3.9	4.9	3.9	3.5	16.0	14.6	14.9	13.9	15.5	14.3	4.1	3.0	47.9	903	
Stan dev	0.79307	0.869782582	0.298332	0.123288341	1.1645737	0.773847935	0.917779298	0.621344382	0.8414101	0.419319454	0.7988982	0.534729733	2.75529	#DIV/0!	706
T test	3.09E-04	5.37E-08	1.78E-05	4.99E-05	1.78E-05	1.49E-07	9.87E-07	1.49E-07	9.87E-07	9.87E-07	#DIV/0!	4.75E-02		15	

*Icon Trial Data 2005 2006*

6

Trial map #: RSV05096    Location: Castroville    Ranch/lot: 19-5    Date evald: 9/15/2005  
 Wet Date: 7/8/2005 Grower: D'Arrigo    Commercial Var: Liberty    Eval by: DG/MK

	Date Mature	Days to Maturity	Color
Icon	9/15/2005	69	5gy4/8
Pybas 251	9/17/2005	71	5gy5/6

Sample #	Core Length (mm)		Head Diameter (cm)		Frame Diameter (cm)	
	Icon	Pybas 251	Icon	Pybas 251	Icon	Pybas 251
1	36	40	14.6	16.6	43	50
2	35	42	14.9	19.1	46	49
3	34	44	15.0	17.0	49	52
4	34	42	14.3	16.8	40	45
5	34	35	14.5	17.2	45	53
6	35	40	16.0	15.6	43	49
7	33	32	14.8	17.3	45	50
8	33	35	15.0	15.9	50	51
9	30	40	15.9	16.2	43	54
10	30	40	14.9	18.2	40	49
11	33	43	16.1	15.9	48	51
12	34	25	15.2	18.3	43	53
Average	33.4	38.2	15.1	17.0	44.6	50.5
Stan dev	1.83E+00	5.49E+00	5.95E-01	1.08E+00	3.23E+00	2.43E+00
T test	9.47E-03		2.26E-05		4.47E-05	
Probability %	99.1		100.0		100.0	
% Difference	12.4		11.2		11.7	

200000340

*Icon* Trial Data 2005 2006

Trial map #:	RSV05104	Location:	Spreckles	Ranch/Itot:	1-9	Date evald:	9/28/2005
Wet Date:	7/14/2005	Grower:	D'Arrigo	Commercial Var:	Liberty	Eval by:	DG/LG

Date Matured Days to Maturity	
Icon	9/27/2005 75
Pybas 251	9/30/2005 78

Sample #	Core Length (mm)		Head Diameter (cm)		Frame Diameter (cm)	
	Icon	Pybas 251	Icon	Pybas 251	Icon	Pybas 251
1	30	35	14.0	16.2	48	56
2	30	35	16.0	15.0	46	54
3	28	37	16.3	17.9	48	50
4	24	37	14.2	18.2	48	50
5	30	38	15.5	15.7	42	54
6	32	30	15.4	16.4	46	53
7	30	30	14.8	16.7	49	52
8	25	33	15.2	16.8	48	55
9	30	35	16.0	19.0	45	52
10	33	35	16.2	18.3	46	55
11	31	31	14.3	15.6	49	54
12	29	30	14.0	17.0	47	55
Average	29.3	33.8	15.2	16.9	46.8	53.3
Stan dev	2.61E+00	2.95E+00	8.76E-01	1.23E+00	1.99E+00	1.97E+00
T test	6.63E-04		6.06E-04		5.46E-08	
Probability %	99.9		99.9		100.0	
% Difference	13.3		10.3		12.2	

200000340

*Icon Trial Data 2005 2006*

*-8*

Trial map #: RYM05196 Location: Holtville Ranch/Iot: Plumb 6 Date evald: 12/27/2005  
 Wet Date: 9/30/2005 Grower: Mission Commercial Var: Talladega Eval by: DG

Date Mature Days to Maturity	
Icon	12/24/2005 85
Pybas 251	12/27/2005 88

Sample #	Core Length (mm)		Head Diameter (cm)		Frame Diameter (cm)	
	Icon	Pybas 251	Icon	Pybas 251	Icon	Pybas 251
1	30	45	14.9	16.3	45	52
2	33	46	14.3	16.0	45	52
3	31	43	14.7	16.0	47	56
4	35	45	15.0	17.0	49	55
5	33	48	15.1	16.8	45	50
6	30	40	14.9	17.2	40	50
7	30	39	15.0	15.1	38	50
8	34	35	14.2	16.8	45	49
9	32	40	14.0	18.0	40	51
10	30	42	14.0	18.5	41	54
11	30	40	15.0	16.0	35	50
12	32	43	14.3	17.2	39	50
Average	31.7	42.2	14.6	16.7	42.4	51.6
Stan dev	1.78E+00	3.59E+00	4.24E-01	9.39E-01	4.17E+00	2.27E+00
T test	6.72E-09		3.68E-07		1.00E-06	
Probability %	100.0		100.0		100.0	
% Difference	24.9		12.7		17.8	

200000340

## IconTrial Data 2005 2006

Trial map #: RYM05209 Location: Texas Hill Ranch/ot: I2B-1 Date evald: 1/18/2006  
 Wet Date: 10/21/2005 Grower: Texas Hill Commercial Var: Grizzly Eval by: MK/LM

	Date Mature	Days to Maturity
Sample #	Icon	Pybas 251
Icon	1/16/2006	87
Pybas 251	1/20/2006	91

Sample #	Core Length (mm)	Head Diameter (cm)	Frame Diameter (cm)
	Icon	Pybas 251	Icon
1	35	48	16.0
2	35	49	16.8
3	37	43	17.0
4	34	50	19.0
5	34	43	14.3
6	32	55	15.0
7	35	48	14.1
8	34	47	14.6
9	37	54	13.9
10	39	40	14.6
11	30	42	14.0
12	32	40	15.2
Average	34.5	46.6	14.4
Stan dev	2.47E+00	5.05E+00	4.46E-01
T test	1.92E-07		3.99E-10
Probability %	100.0		100.0
% Difference	25.9		17.1
			19.7

200000340

200000340

20  
 Trial map #: SVPD99003  
 Wet Date: 7/31/99  
 Date eval: 10/8/99  
 Location: Blanco  
 Grower: T&A

PVP DATA:  
 Comparison of Head Characteristics  
 Ranch/Llo Dave McFai

Maturity Date:  
 1 Icon 10/12/99  
 2 Spector 10/10/99

Sample #	Core length (cm)		Core diam. (cm)		Head diam. (cm)		Head length (cm)		Avg Head Diameter (cm)		Avg Head Length (cm)		Frame:Core Length		Frame diam (cm)		Head wt. (g)	
	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector
1	4.9	3.7	3.9	3.1	19.0	17.2	16.0	15.5	16.4	15.5	16.4	16.6	15.7	3.6	4.4	51	49	878
2	4.5	4.2	4.2	4.0	17.4	16.4	15.8	14.9	16.6	15.7	15.7	15.7	3.7	53	43	908	1158	
3	3.4	3.5	3.5	3.9	18.6	16.2	17.6	14.8	18.1	15.5	15.5	15.3	4.4	4.9	48	870	852	
4	3.5	3.1	3.8	3.5	18.2	14.5	14.9	17.3	16.6	15.9	15.9	14.7	4.7	5.1	51	49	906	820
5	4.1	3.4	3.6	3.5	17.9	16.4	17.2	14.4	17.2	15.2	15.2	14.2	4.2	4.9	53	51	868	1062
6	4.2	4.9	4.0	3.6	19.2	16.6	17.2	14.5	18.2	15.6	15.6	14.3	4.3	4.6	51	50	914	690
7	3.4	3.6	3.6	3.5	17.4	15.2	14.6	13.8	16.0	14.5	14.7	14.7	3.0	3.0	51	44	884	718
8	4.1	3.9	3.6	3.6	15.6	17.5	15.4	16.2	15.5	16.2	16.9	16.9	3.8	4.7	53	48	736	664
9	4.2	3.9	3.8	3.8	15.2	16.3	15.6	15.5	15.4	15.9	15.9	15.7	4.1	52	49	828	680	
10	4.4	4.1	3.6	3.2	18.5	14.4	16.6	16.4	17.6	15.4	15.4	14.0	3.8	53	51	866	980	
11	3.2	4.4	3.9	3.6	15.9	16.2	15.9	14.0	15.9	15.1	15.1	15.0	3.7	54	52	968	808	
12	4.9	5.2	3.9	3.5	18.6	16.5	18.6	18.6	18.6	16.1	16.1	16.1	3.8	3.6	49	48	842	758
13	5.4	4.2	4.0	3.5	15.7	14.5	15.9	15.6	15.8	15.1	15.1	15.1	2.9	2.9	55	52	1126	832
14	4.6	4.1	3.5	3.7	18.2	14.9	19.1	15.6	18.7	15.2	15.2	14.1	3.6	51	48	826	748	
15	3.5	4.9	3.6	3.5	16.6	16.3	16.6	15.5	16.6	15.9	15.9	14.7	3.9	52	53	884	904	
16	4.0	5.4	3.6	3.7	15.2	15.9	17.5	17.2	16.4	16.6	16.6	14.1	3.4	53	47	822	926	
17	2.8	4.6	3.2	3.7	16.9	16.6	16.9	15.9	16.9	16.3	16.3	16.0	3.5	51	47	804	842	
18	3.2	4.5	3.5	4.0	15.2	16.5	15.6	15.6	15.9	15.4	15.4	16.2	4.8	3.6	52	49	814	740
19	3.4	4.0	3.6	3.9	16.6	15.5	16.5	14.8	16.6	15.2	15.2	14.9	3.8	53	44	866	812	
20	4.0	4.0	3.6	3.5	15.9	15.9	16.9	13.5	16.4	14.7	14.7	14.1	3.7	52	53	834	660	
21	4.9	3.9	3.5	3.7	14.8	16.4	15.9	14.4	15.4	15.4	15.4	15.1	3.9	49	51	954	882	
22	4.4	3.7	3.6	3.6	16.1	15.1	14.5	14.2	15.3	14.7	14.7	13.5	4.0	53	44	1020	756	
23	5.6	4.0	3.7	3.7	17.2	14.5	16.6	14.2	16.9	14.4	14.4	13.0	3.6	53	51	888	846	
24	4.0	4.5	3.7	4.0	16.9	16.5	16.6	15.5	16.8	16.0	16.0	14.2	3.6	51	49	772	892	
Average	4.1	4.2	3.7	3.6	17.0	15.9	16.4	15.2	16.7	15.6	15.6	14.2	3.9	51.9	48.5	878.3	840.9	
Stan dev	0.72265	0.56323	0.218526	0.228059	1.351	0.87798	1.11771	1.0014392	1.02285477	0.66232736	0.74969506	0.553526076	1.5411	2.734641	8121108	138995	0.261787	
T test	0.77333	0.405178		0.0025		0.000596		5.0344E-05		0.14348348		3.6E-06						

Trial map #: RSV99084  
 Wet Date: 8/6/99  
 Date evald: 10/15/99

PVP DATA:  
 Location: Blanco  
 Ranch/Lot: Bardin 14  
 Grower: RC Farms  
 Commercial Venus

Sample #	Comparison of Head Characteristics																	
	Core length (cm)		Core diam. (cm)		Head length (cm)		Avg Head Diameter (cm)		Avg Head Diameter (cm)		Head diam:Core		Frame diam (cm)		Icon		Spector	
	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector
1	4.9	3.6	3.8	3.8	17.8	14.4	16.5	14.5	17.2	14.5	3.5	4.0	5.2	5.0	826	554		
2	5.2	3.1	3.9	3.7	16.0	13.2	12.8	13.1	14.4	13.2	2.8	4.2	5.3	5.2	890	566		
3	4.6	4.5	3.5	3.5	16.6	13.6	15.1	14.1	15.9	13.9	3.4	3.1	5.2	5.0	644	690		
4	2.5	3.2	4.0	3.7	16.4	15.4	15.1	13.5	15.8	14.5	6.3	4.5	5.0	4.8	714	814		
5	6.4	4.3	4.1	3.0	18.6	14.5	14.9	15.3	16.8	14.9	2.6	4.7	5.3	4.7	838	578		
6	5.1	5.2	3.6	3.1	15.2	14.6	18.5	14.9	16.9	14.8	3.3	3.4	5.1	4.6	722	560		
7	5.1	4.4	3.8	3.2	18.1	15.7	14.3	12.4	16.2	14.1	3.2	2.7	4.9	5.1	874	572		
8	6.2	6.2	3.5	3.6	18.1	16.2	15.1	16.6	16.6	16.4	2.7	3.7	4.9	4.6	532	698		
9	4.3	4.6	3.2	3.5	15.2	14.5	13.1	13.9	14.2	14.2	3.3	2.3	5.1	4.8	994	515		
10	5.6	4.8	3.5	3.1	16.4	14.5	16.0	14.9	16.2	14.7	2.9	3.2	5.2	4.6	714	630		
11	5.2	5.2	3.6	3.6	15.2	15.1	13.1	13.9	14.2	14.5	2.7	3.0	5.3	5.0	694	698		
12	5.1	4.2	3.6	3.4	16.2	15.4	14.0	13.5	15.1	14.5	3.0	2.8	5.1	4.7	690	422		
13	3.2	5.0	3.7	3.0	15.7	15.6	13.2	13.6	14.5	14.6	4.5	3.5	5.3	5.1	706	480		
14	3.9	4.0	4.2	3.0	16.9	15.5	15.4	13.6	16.2	14.6	4.1	2.9	5.1	4.4	608	746		
15	3.7	4.0	3.5	3.2	17.9	15.9	17.5	14.2	17.7	15.1	4.8	3.8	5.2	4.9	746	708		
16	7.4	3.7	3.6	3.1	17.9	16.0	14.8	14.2	16.4	15.1	2.2	3.8	5.1	4.6	874	646		
17	4.6	5.9	3.0	3.5	14.5	15.2	14.5	13.1	14.5	14.2	3.2	2.4	5.1	4.9	770	470		
18	5.4	3.1	3.6	3.2	16.0	14.4	14.9	12.1	15.5	13.1	2.9	4.3	5.1	4.9	774	516		
19	6.6	3.1	3.7	3.2	17.9	14.5	17.9	14.1	17.9	14.3	2.7	4.6	5.5	4.8	800	520		
20	5.0	3.2	3.5	3.2	18.6	13.5	16.4	14.6	17.5	14.1	3.5	4.4	5.4	5.0	944	876		
21	5.5	4.4	3.2	3.1	15.5	15.1	16.1	13.2	15.8	14.2	2.9	3.2	5.3	4.7	722	846		
22	6.1	5.5	3.5	3.3	17.4	14.5	15.5	12.8	16.5	13.7	2.7	2.5	5.2	4.9	774	516		
23	8.6	4.6	3.6	3.4	14.6	14.4	16.5	14.0	15.6	14.2	1.8	3.1	5.1	4.9	772	580		
24	5.5	3.0	3.5	3.4	16.5	16.4	15.6	14.2	16.1	15.3	2.9	5.1	5.0	4.8	760	614		
Average	5.2	4.3	3.6	3.3	16.6	14.9	15.3	13.9	16.0	14.4	3.2	3.5	51.7	48.3	758.5	679.0		
Stan dev	1.300105	0.924858	0.272369	0.243614	1.268229	0.846465	1.497147	0.964806	1.0955113	0.674376	0.928847	0.793799	1.4645571	1.948615	109.8636	117.6626		
T test	5.26E-03	3.58E-04	1.60E-06	5.33E-04	5.04E-07	2.28E-01	2.58E-08	1.04E-04										

200000340

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 Trial map #: 11/17/99  
 Wet Date: 3/10/00  
 Date evald: 3/10/00

PVP DATA:  
 Comparison of Head Characteristics  
 Ranch/Lot: 30/4  
 Grower: Nickerson  
 Location: Dome Valley  
 Ranch/Lot: 30/4  
 Commercial Var: Westland

Maturity Date:  
 1 Icon 3/10/00  
 2 Spector 3/8/00

Sample #	Core length (cm)	Core diam. (cm)	Head diam. (cm)	Head length (cm)	Avg Head Diameterr (cm)	Frame diam (cm)	Head wt. (g)
	Icon	Spector	Icon	Spector	Icon	Spector	Icon
1	5.1	3.3	4.3	16.8	14.0	14.2	49
2	4.3	3.4	3.9	4.1	15.3	14.9	840
3	4.6	2.7	4.0	3.1	16.2	13.9	934
4	4.7	4.4	3.5	4.1	16.5	15.7	747
5	3.6	4.0	3.5	3.9	14.3	14.7	599
6	3.4	4.5	3.5	4.2	16.4	14.2	996
7	3.9	3.2	3.8	4.0	16.2	14.1	635
8	3.8	3.7	3.7	3.8	16.2	13.8	893
9	3.5	3.9	4.5	4.0	19.0	15.7	837
10	3.0	3.6	3.5	3.9	15.9	14.6	1118
11	4.0	4.0	3.7	3.8	16.4	16.3	852
12	5.4	3.0	4.0	4.2	15.4	14.3	774
13	5.0	4.2	3.9	3.0	16.9	14.3	600
14	4.0	2.5	3.9	3.5	16.2	14.4	683
15	3.1	3.7	4.0	3.8	16.9	14.4	879
16	3.5	2.7	4.4	4.1	17.0	15.5	777
17	5.1	3.5	3.7	4.5	16.9	14.6	654
18	5.6	3.4	4.5	4.1	15.1	15.2	905
19	5.1	3.3	4.0	4.0	15.7	15.5	780
20	4.2	3.2	3.4	3.6	15.6	14.7	725
21	4.0	4.0	3.8	4.5	16.4	15.7	948
22	3.5	3.1	3.9	4.1	16.9	14.6	769
23	4.6	2.4	3.8	3.8	16.7	16.0	1046
24	3.0	2.5	3.8	3.6	15.9	13.0	787.2
Average	4.2	3.4	3.9	3.9	16.2	14.8	1020.2
Stan dev	0.7788888	0.60235	0.309628	0.361458	0.911272	0.838984	133.9257
T test	5.93E-04	1.00E-01	2.79E-06	1.19E-03	2.62E-07	7.12E-02	2.45E-06
						7.62E-01	

200000340

Trial map #: YM99219  
 Wet Date: 12/10/99  
 Date evald: 3/25/00

PVP DATA:  
**Comparison of Head Characteristics**  
 Location: Dome Valley Ranch/lot: Monkeyf6-,  
 Grower: Mission Commercial Var Headmaste

Sample #	Core length (cm)	Core diam. (cm)	Head diam. (cm)	Head length (cm)	Avg Head Diameterr (Icon)	Avg Head Diameterr (Spector)	Frame diam (cm)	Avg Head Diameterr (Icon)	Avg Head Diameterr (Spector)	Frame diam (cm)	Avg Head Diameterr (Icon)	Avg Head Diameterr (Spector)	Frame diam (cm)	Avg Head Diameterr (Icon)	Avg Head Diameterr (Spector)	Frame diam (cm)	Avg Head Diameterr (Icon)	Avg Head Diameterr (Spector)	Frame diam (cm)
1	6.1	5.5	5.0	4.1	18.7	17.2	18.2	16.5	18.5	16.9	3.0	3.1	5.5	5.1	1825	1298			
2	4.5	4.2	5.0	4.5	19.5	18.2	18.6	16.6	19.1	17.4	4.2	4.1	5.4	5.6	1223	1266			
3	5.0	4.5	4.6	4.8	18.9	15.4	18.4	16.8	18.7	16.1	3.7	3.6	5.2	5.1	1643	1396			
4	6.5	3.2	4.7	4.6	17.8	15.8	18.7	14.4	18.3	15.1	2.8	4.7	5.1	5.0	1591	1221			
5	6.2	4.2	5.6	4.7	17.5	16.9	16.7	16.4	17.1	16.7	2.8	5.2	5.2	5.4	1168	1264			
6	6.0	6.0	6.0	4.9	15.3	17.0	15.4	17.6	15.4	17.3	3.7	3.7	5.6	5.3	1382	790			
7	4.0	4.2	4.3	4.3	17.5	14.9	18.0	15.9	17.4	15.0	2.7	2.8	5.2	5.3	1256	1389			
8	5.8	5.5	5.0	4.9	17.4	16.0	15.0	16.0	16.2	16.0	2.6	2.6	5.8	5.2	1499	1316			
9	5.4	6.2	4.8	5.2	18.1	17.5	19.7	16.3	18.9	16.9	3.5	3.1	5.5	5.8	1077	1921			
10	6.2	4.0	5.0	4.2	19.1	14.7	16.5	16.1	17.8	15.4	2.9	2.5	5.7	5.4	1008	1378			
11	5.4	4.1	4.7	4.5	17.7	16.0	18.0	15.2	17.9	15.6	3.3	3.9	5.5	5.4	1673	1231			
12	5.2	6.0	4.5	4.5	14.4	17.5	15.6	14.0	15.0	15.0	2.9	2.9	5.5	5.4	1168	1316			
13	5.7	5.2	5.5	5.1	18.2	16.2	16.7	16.2	17.5	16.2	3.1	2.7	5.6	5.4	1827	1080			
14	5.6	4.4	3.6	4.5	20.6	19.3	16.1	18.0	18.4	18.7	3.3	3.6	5.5	5.3	1839	876			
15	4.9	3.0	4.3	4.2	17.4	13.5	16.7	16.5	17.1	15.0	3.5	3.4	5.0	5.0	1778	1665			
16	4.8	3.2	4.7	4.7	14.7	16.5	15.7	15.2	15.2	15.2	3.2	5.0	5.6	4.6	1432	1102			
17	4.2	5.6	4.5	4.2	17.5	18.9	17.4	17.5	17.5	18.3	4.2	3.3	5.6	5.4	1584	1338			
18	3.5	5.0	4.4	4.0	18.7	17.0	16.5	15.7	17.6	16.4	5.0	5.0	5.7	5.3	1763	1057			
19	5.5	6.0	4.3	4.7	16.2	18.7	15.5	16.7	15.9	17.7	2.9	3.0	5.6	5.0	1724	1386			
20	5.7	4.9	5.7	4.6	18.2	18.0	16.4	16.9	17.3	17.5	3.5	3.1	5.8	5.4	1604	1407			
21	5.7	4.5	4.6	4.6	16.1	17.3	16.4	16.8	16.3	17.1	2.9	3.8	5.9	5.2	1388	1193			
22	3.9	4.7	4.4	4.2	15.5	16.9	16.0	14.7	15.8	15.8	4.0	3.4	4.7	5.4	1931	812			
23	5.4	4.9	4.9	4.5	18.4	16.3	17.3	15.3	17.9	15.8	3.3	3.2	5.0	5.3	1541	1023			
Average	5.2	4.8	4.6	4.6	17.6	16.7	17.0	16.1	17.3	16.4	3.4	3.5	54.3	52.4	1532.0	1256.5			
Stan dev	0.814497	0.925056	0.363552	0.316113	1.523987	1.378615	1.22047	1.028639	1.1887436	0.988464	0.604306	0.705618	3.182549794	2.430185	271.0698	252.0304			
T test	1.59E-01	3.78E-01	5.53E-02	1.58E-02					1.25E-02	5.51E-01			2.64E-02		6.76E-04				

Box Type	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector
24s	465	453								
30s										
36s										
Jumbo's										
Total Box	465	453								
% 24s	100	100								
% 30s	0	0								
% 38s	#DIV/0!	#DIV/0!								
% Jumbo's	0	0								
% Jumbo's	465	453								

Variety	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector
Color	1									
Tip burn	2									
Tip severity	3									
Solidity	4									
Solidity:	1= very loose									
	5= Very solid									
	5=severe									

T test  
 Average  
 Stan dev  
 T test

1= very loose  
 5= Very solid  
 5=severe

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Sample #	Comparison of Head Characteristics				Commercial variety:				Maturity Date:			
	Spreckels		Ranch/Lot Spreckels/5		Mythic		1 icon		2 Specter		5/8/00	
	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector
1	6.2	3.0	3.6	3.7	19.5	15.8	14.1	18.4	15.0	3.0	5.0	5.2
2	3.8	2.9	3.8	3.6	18.5	14.7	15.2	16.9	15.0	4.4	5.2	4.8
3	3.2	3.8	3.6	3.6	18.3	16.1	16.7	13.2	17.5	5.5	3.9	4.7
4	4.4	4.3	4.0	3.8	18.2	14.6	17.8	14.2	18.0	4.1	3.3	4.7
5	4.3	3.6	3.8	3.7	16.2	14.6	16.0	14.2	16.1	3.7	3.3	4.7
6	4.2	2.8	4.0	3.5	17.6	17.6	16.4	13.5	17.0	15.6	4.0	4.3
7	3.2	3.6	3.7	3.5	16.2	19.5	14.3	13.8	15.3	16.7	4.8	5.9
8	3.7	4.4	3.5	3.5	15.2	16.7	15.2	14.6	15.2	15.7	4.1	4.3
9	3.5	4.2	3.9	3.6	16.4	18.0	14.4	13.6	15.4	15.8	4.4	3.6
10	4.2	3.0	4.1	3.8	18.3	14.6	14.2	14.5	16.3	14.6	3.9	3.5
11	4.6	3.3	3.5	3.2	15.2	15.5	14.8	13.3	15.2	14.4	3.3	4.8
12	3.0	4.2	3.3	3.9	18.0	17.0	16.1	14.2	17.1	15.6	5.7	4.7
13	4.5	3.1	4.0	3.6	18.7	15.1	15.3	13.2	17.0	14.2	4.7	4.7
14	3.1	4.0	3.6	4.1	17.0	17.4	15.6	15.3	16.3	16.4	5.3	5.3
15	3.6	3.2	3.8	3.5	18.5	15.0	15.2	15.2	16.9	15.1	4.7	4.7
16	3.9	2.5	3.6	3.7	19.0	16.2	16.7	14.3	17.9	15.3	4.6	4.8
17	3.8	3.9	4.3	3.9	17.3	20.4	14.8	14.3	16.1	17.4	4.2	4.6
18	4.8	4.6	4.2	3.3	19.1	14.2	15.0	14.5	17.1	14.7	3.8	3.4
19	4.0	3.2	3.6	3.6	19.6	13.8	13.5	12.8	16.6	13.3	4.1	4.2
20	5.2	2.5	3.7	3.6	18.2	15.0	15.4	13.6	16.8	14.3	3.2	5.7
21	2.8	3.7	3.7	3.7	15.0	16.1	14.3	13.5	14.7	14.8	5.2	5.3
22	4.3	3.5	4.4	3.2	17.3	17.0	15.3	15.3	16.3	16.2	3.8	4.6
23	3.5	3.0	4.0	4.1	15.1	17.7	14.9	16.2	15.0	17.0	4.3	3.6
24	4.1	3.6	3.8	3.3	17.0	15.4	16.2	16.3	16.6	15.9	4.0	4.4
Average	4.0	3.5	3.8	3.7	17.5	16.2	15.4	14.3	16.5	15.2	4.2	4.4
Stan dev	0.7612799	0.6086119	0.247268	0.279751	1.408765	1.668239	1.042163	0.92872829	0.980406	0.987412	0.697895	0.829163
T test	0.0091196	0.07757	0.004805	0.07757	0.000206	8.09E-05	0.000206	8.09E-05	0.000206	8.09E-05	0.03572679	0.097469
											0.2979831	0.2979831

200000340

PVP DATA:

Trial map #: SV00119  
Wet Date: 4/11/00  
Date evald: 6/20/00

Location: Salinas  
Grower: Blanco

Maturity Date:  
Ranch/lot:  
Commercial Var

Cooper/5  
Sharpshoote

1 Spector  
Icon

2 Spector  
Icon

6/21/00  
6/24/00

Maturity Date:  
Ranch/lot:  
Commercial Var

1 Spector  
Icon

2 Spector  
Icon

6/21/00  
6/24/00

Comparison of Head Characteristics									
Sample #	Core length (cm)	Core diam. (cm)	Head diam. (cm)	Head length (cm)	Avg Head Diam (cm)	Avg Head Diam (cm)	Avg Head Diam:Core Lf	Frame diam (cm)	Head wt. (g)
	Spector	Icon	Spector	Icon	Spector	Icon	Spector	Icon	Spector
1	3.5	4.7	3.5	4.0	14.6	13.6	14.1	15.3	4.0
2	4.1	4.2	3.6	3.8	15.5	14.2	16.4	16.0	3.3
3	3.3	4.6	4.2	3.4	16.0	15.0	15.4	15.7	4.1
4	3.7	2.5	3.5	3.1	14.4	16.0	13.5	14.1	4.8
5	3.0	2.3	4.0	3.5	13.7	14.9	13.7	13.7	3.1
6	4.1	2.5	3.9	3.7	14.3	11.5	13.5	16.6	4.6
7	2.5	3.5	4.0	3.7	14.3	14.6	14.5	13.9	3.4
8	3.0	2.9	3.8	3.6	17.0	13.7	14.5	13.8	4.2
9	3.0	4.0	3.9	3.2	12.9	16.5	14.7	12.2	3.8
10	2.9	4.1	3.9	3.3	13.7	13.0	15.3	15.2	4.1
11	3.0	2.6	3.7	3.5	13.0	14.9	13.6	14.6	4.6
12	3.1	4.7	3.7	3.9	14.5	14.9	13.5	13.3	4.4
13	4.0	4.0	3.2	3.6	14.0	16.0	15.2	15.9	4.0
14	4.4	4.0	3.5	3.6	13.4	14.0	15.2	15.0	4.5
15	2.5	4.0	3.8	3.6	13.8	16.4	13.1	13.5	4.5
16	3.0	3.7	3.6	3.5	14.0	15.1	14.9	14.3	4.4
17	3.1	4.2	3.7	4.0	13.0	15.0	15.5	15.9	4.5
18	4.0	3.5	3.5	3.7	13.4	14.5	13.4	15.5	3.7
19	2.5	3.0	3.0	3.9	15.1	13.0	13.7	14.3	4.4
20	3.5	3.5	3.7	3.4	12.2	16.0	15.3	16.2	5.4
21	3.5	4.3	3.3	3.7	14.6	15.0	14.0	14.7	4.8
22	3.5	3.6	3.7	3.4	14.0	14.0	15.7	15.0	4.6
23	3.4	4.5	3.7	3.6	13.5	15.3	13.9	13.4	3.4
24	3.1	3.9	3.4	3.7	13.2	15.5	14.0	14.1	4.5
Average	3.3	3.7	3.7	3.6	14.0	14.8	14.3	13.6	4.3
Stan dev	0.5291331	0.727712	0.269729	0.232192	1.034329	1.166812	0.8004415	1.113349	0.63094994
T test	4.46E-02	3.64E-01	1.60E-02	6.30E-02	1.00E-03	6.28E-01	1.00E-03	1.00E-03	3.92E-01
									1.35E-06

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## Trialing Protocol for Intellectual Property Protection.

### I. Set Up

1. Parental lines and competing varieties are identified.
2. Primary slots are identified.
3. Necessary accession lines are located and purchased/received from seed dealers or growers.
4. All varieties are assigned a number to maintain integrity, and anonymity.
5. Trials are set up in the Progeny warehouse with all necessary varieties. Variety arrangement for trial is diagramed.

### II. Planting

1. Commercial plantings are located by contacting commercial growers during the planting slot recommended for the variety.
2. Field is located during commercial planting, and the necessary rows and area is marked off by a Progeny employee with proper training.
3. Varieties are planted according to diagram, in 100 ft. ranges.
4. All varieties are planted in same manner, to mimic the planting of the commercial variety as closely as possible.
5. A trial map is drawn diagramming the trial, the trial location in the field, and directions to the field.

### III. Maintenance

1. All varieties are treated identically. The grower handles all watering, fertilization, and pest control, as if it was no different from the commercial field it is grown with.
2. Thinning of the trial is done by a crew contracted by the commercial grower.



#### IV. Evaluation

1. Evaluations are done as near to the time of the commercial harvest as possible by knowledgeable Progeny employees.
2. The evaluation is conducted "blindly". The evaluator(s) do not have the key to the trial at the time of evaluation.
3. 24 heads of each variety are evaluated.
  - a. The frame diameter of 24 random plants are measured to the nearest cm.
  - b. 24 mature heads of each variety are cut to the cap leaf.
  - c. The heads are carried to an adequate work station
  - d. The following measurements are then conducted and recorded:
    1. Each head is weighed to the nearest gram.
    2. The core diameter of each head is measured to the nearest mm.
    3. The heads are then sliced in to halves, discarding 1 half.
    4. The core lengths (from the cut stem to the core tip) are measured to the nearest mm.
    5. The head length (from the cut stem to the cap leaf) is measured to the nearest mm.
    6. The head diameter (at its widest point) is measured to the nearest mm.
    7. The ideal maturity or harvest date is then estimated based on the solidity of the head, the core length and any other physiological characteristics present.
    8. The leaf color is documented using the Munsell Color Charts for Plant Tissue.
  - e. From these measurements, we then use an Excel program to calculate the averages, the standard deviations and the T-Tests for the compared varieties.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP***The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.**Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).*

## 1. NAME OF APPLICANT(S)

**PROGENY ADVANCED GENETICS, INC.**2. TEMPORARY DESIGNATION  
OR EXPERIMENTAL NUMBER  
**PX 621**3. VARIETY NAME  
**ICON**

## 4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)

**1536 B MOFFETT ST  
SALINAS CA 93907**

## 5. TELEPHONE (include area code)

**831-751-6030**6. FAX (include area code)  
**831-751-6032**

## 7. PVPO NUMBER

**200000340**

## 8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.

 YES NO

## 9. Is the applicant (individual or company) a U.S. national or U.S. based company?

If no, give name of country

 YES NO

## 10. Is the applicant the original owner?

 YES NO

If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

 YES NO

If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

 YES NO

If no, give name of country

## 11. Additional explanation on ownership (if needed, use reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.